

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. **(currently amended)** A wireless [[LAN]] system, comprising:

a wireless LAN,

an access point,

at least one communications device communicating within said wireless LAN via said access point, and

a controller,

the access point including a data communicator for communicating data with said at least one communications device over downlink and uplink channels using different first and second wireless technologies, respectively, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

said at least one communications device including a further data communicator for communicating data with said access point over said downlink and uplink channels using said first and second wireless technologies, respectively,

wherein the first wireless technology arranged to be used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first data rate,

the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and

the controller is arranged for controlling data communications over the downlink channel and the uplink channel to maximize the [[QoS]] usage of the bandwidth of the downlink channel data communication.

2. **(canceled)**

3. **(currently amended)** A wireless [[LAN]] system as claimed in claim 1, wherein said at least one communications device is arranged to transmit a service request signal on the uplink channel, and the controller is arranged to control the bandwidth on the downlink channel to said at least one communications device in response to the service request signal received from that device.

4. **(currently amended)** A method of controlling data communications in a wireless LAN ~~including an access point and a given mobile communications device~~, the method comprising steps of:

at least one given mobile communications device communicating within said wireless LAN via an access point;

~~directly communicating data from~~ the access point directly communicating data to the given mobile communications device on a downlink channel using a first wireless technology;

~~directly communicating data from~~ the given mobile communications device directly communicating data to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

controlling data communications over the downlink channel and the uplink channel to maximize the [[QoS]] usage of the bandwidth of the downlink channel data communication;

wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

5. **(Original)** A method as claimed in claim 4, wherein the data communicated from the given mobile communications device to the access point includes a service request.

6. **(previously presented)** A method as claimed in claim 5, further comprising controlling the bandwidth on the downlink channel in response to the service request sent by the given mobile communications device.

7. (previously presented) A method as claimed in claim 5, wherein the data communicated from the given mobile communications device to the access point further includes uplink control signals.

8. (Original) A method as claimed in claim 4, further comprising controlling data communications so that any spare capacity on the uplink channel is used for downloading data from the access point to the given mobile communications device.

9. (Original) A method as claimed in claim 4, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

10. **(currently amended)** A wireless [[LAN]] system, comprising:
a wireless LAN,
an access point,
at least one mobile communications device communicating within said wireless LAN via said access point, and
a controller,
the access point including a transceiver for direct data communication with said at least one mobile communications device over downlink and uplink channels arranged to use different first and second wireless technologies, respectively, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF,
said at least one mobile communications device including a respective transceiver for direct data communication with said access point over said downlink and uplink channels using said first and second wireless technologies, respectively,
wherein
the first wireless technology used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first data rate,

the second wireless technology used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and

the controller is arranged to control data communications over the downlink channel and the uplink channel to maximize the [[QoS]] usage of the bandwidth of the downlink channel data communication.

11. **(currently amended)** A method of controlling data communications in a wireless LAN ~~including an access point and a given mobile communications device~~, the method comprising steps of:

at least one given mobile communications device communicating within said wireless LAN via an access point;

~~directly communicating data from~~ the access point directly communicating data to the given mobile communications device on a downlink channel using a first wireless technology;

~~directly communicating data from~~ the given mobile communications device directly communicating data to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

controlling data communications over the downlink channel and the uplink channel to maximize the [[QoS]] usage of the bandwidth of the downlink channel data communication,

wherein the data communicated from the given mobile communications device to the access point includes a service request signal, and said method further comprises controlling the bandwidth of the downlink channel in response to the service request signal sent by the given mobile communications device; and

wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF.

12. **(currently amended)** A wireless [[LAN]] system, comprising:

a wireless LAN.

an access point,
at least one mobile communications device communicating within said wireless LAN via said access point, and
a controller,
the access point including a transceiver for direct data communication with said at least one mobile communications device over downlink and uplink channels using different first and second wireless technologies, respectively, wherein each of the wireless technologies is one of 802.11x, Hiperlan/2, Bluetooth or Home RF,
said at least one mobile communications device including a respective transceiver for direct data communication with said access point over said downlink and uplink channels and arranged to use said first and second wireless technologies, respectively,
wherein
the first wireless technology arranged to be used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first data rate,
the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate,
the controller is arranged to control data communications over the downlink channel and the uplink channel to maximize the [[QoS]] usage of the bandwidth of the downlink channel data communication, and
said at least one mobile communications device is arranged to transmit a service request signal on the uplink channel, and the controller is arranged to control the bandwidth on the downlink channel to said at least one mobile communications device in response to the service request signal received from that device.

13. (previously presented) A method as claimed in claim 4, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels.

14. (previously presented) A method as claimed in claim 8, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels.

15. (previously presented) A method as claimed in claim 14, wherein data is downloaded from the access point to the given mobile communications device simultaneously on both said downlink and uplink channels, using an entire capacity of said downlink channel and the spare capacity of the uplink channel;

a remaining capacity of the uplink channel being simultaneously used for uploading data from the given mobile communications device to the access point.

16. (previously presented) A method as claimed in claim 14, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

17. **(currently amended)** A wireless [[LAN]] system as claimed in claim [[2]] 1, wherein said controller is within an integral part of the access point.

18. **(currently amended)** A wireless [[LAN]] system as claimed in claim 1, wherein said at least one communications device comprises different first and second antennas and the further data communicator of said at least one communications device comprises different first and second sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

19. **(currently amended)** A wireless [[LAN]] system as claimed in claim 10, wherein said at least one mobile communications device comprises different first and second antennas and the respective transceiver of said at least one mobile communications device comprises different first and second transceiver sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

20. **(currently amended)** A wireless [[LAN]] system as claimed in claim 12, wherein said at least one mobile communications device comprises different first and second antennas and the respective transceiver of said at least one mobile communications device comprises different first and second transceiver sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.